

## FURNITURE MANUFACTURER apprenticeship standard

The programme is designed to give a wide range of skills appropriate to the different occupations in the industry. This apprenticeship covers the following occupational areas:

- General Furniture Manufacturer
- Bed Manufacturer
- Modern Upholsterer
- Furniture Finisher
- Fitted Furniture Installer
- Furniture Restorer
- Modern Furniture Service Repairer
- Foam Convertor and Upholstery Cushion Interior Manufacturer
- Wood Machinist
- Furniture CNC Specialist

Each apprentice will take the occupational route that is best suited to the business they work in. They will complete all the core requirements set out below and then the set number of requirements for the chosen route.

Each business, depending on size, market position and skills needs, will require a different combination of the optional requirements detailed within each occupational area. This apprenticeship is designed to allow the business and the apprentice to agree which of these options are most valuable to the apprentice and organisation. The number of requirements is set for each occupational area as being the minimum needed to ensure competence and transferability but any employer is free to train their apprentice in additional requirements outside of the apprenticeship and at their own cost.

### Typical job titles:

Typical job titles include: General furniture manufacturer, Bed manufacturer, Modern upholsterer, Furniture maker, Cabinet maker, Furniture designer, Mattress maker, Divan maker, Headboard make

### Core requirements: knowledge, skills and behaviours

#### KNOWLEDGE

#### WHAT IS REQUIRED

<b>Industry</b>	Knowledge and understanding of general background of the furniture industry.
<b>Organisation</b>	Knowledge and understanding of the company you are working in. This includes understanding the manufacturing process and how you contribute and fit into it.
<b>Materials</b>	Knowledge and understanding of industry materials. Properties and characteristics of materials used within your organisation
<b>Customers</b>	Knowledge and understanding of customer expectations. Who are the industry customers and what are their expectations in terms of packaging and delivery?
<b>Quality Standards</b>	Know the quality standards which apply to the products and how to check that these have been met. Read and interpret

specifications, drawings, cutting lists and other relevant technical information used within your organisation.

**Health, Safety and Environment**

Knowledge and understanding of the relevant health, safety and environmental requirements and regulations. Understand sustainability within the industry.

**SKILLS**

**WHAT IS REQUIRED**

**Maintain Tools & Equipment**

Perform regular autonomous maintenance tasks on machinery, tools and equipment used.

**Problem Solving**

Identify issues quickly, solve problems and apply appropriate solutions.

**Achieve quality and output targets**

Carry out work to required quality standards and output targets. High attention to detail, must monitor and check work meets specifications and must follow methodology and processes.

**Health & Safety**

Comply with health, safety and environmental requirements, relevant statutory regulations and industry standards/codes of practice at all times

**BEHAVIOURS**

**WHAT IS REQUIRED**

**Collaboration & Adaptability**

Willing to both listen and learn and to accept changing priorities and working requirements.

**Time management**

Work effectively with others in a team whilst maintaining effective professional working

**Pride in the workplace**

Time management and ability to complete work to schedule

Organise work space for efficiency and effectiveness by identifying and storing items used, maintaining work area and sustaining order

**General furniture manufacturer:**

Furniture Manufacturers are skilled craftsmen/women who make pieces of furniture. They may work in a small, independent shop that produces custom furniture or in a factory that mass-produces pieces of furniture. They will manufacture furniture such as:

- Domestic – kitchens, bedrooms, living room and other items for the home
- Office - desk, seating, tables and other items for the office environment
- Contract - furniture for public areas such as hospitals, schools, hotels and airports
- Manufacture of high quality wooden components

In order to ensure sufficient flexibility to meet the needs of the industry whilst maintaining the rigour of every single apprenticeship within it, Furniture Manufacturers will need to undertake six of the following requirements, at least three must be Group A.

**YOU WILL KNOW HOW TO AND BE ABLE TO**

## A

<b>Group</b>	
<b>Machinery, Tools and Equipment</b>	Set up and operate machinery, tools and equipment used to produce furniture. Understand tools and equipment used
<b>Components</b>	Make components of furniture to specification within acceptable tolerances. Understand how and where components are used
<b>Cutting</b>	Use appropriate equipment to cut materials within acceptable tolerances
<b>Joints</b>	Understand the principles of joints used in making hand-crafted furniture
<b>Veneers and Laminates</b>	Select, prepare and apply veneers to items of furniture
<b>Assembly</b>	Assemble components of furniture. Understand the sequence of assembly and why this is important
<b>Finishing</b>	Apply stains, sealers, basecoats and finishes to production furniture

## Group

## B

<b>Measure and Mark Out</b>	Measure and mark out materials to specification
<b>Sanding</b>	Sand materials for preparation prior to assembly, post-assembly and de-nibbing. Understand grit sizes and the process of sanding
<b>Cramping</b>	Position components and apply cramps to ensure products are positioned securely to specification
<b>Fittings</b>	Prepare and assemble components to specification, finishing and checking the assembly conforms to specifications
<b>Gluing</b>	Apply adhesives to components. Understand types, methods and processes involved in gluing
<b>Jigs and Templates</b>	Use and maintain jigs and templates for furniture production. <i>Jigs are used to ensure repeatability and accuracy in the production of furniture. These can be hand held or mounted on workbenches.</i>
<b>Edge Banding</b>	Carry out edge-banding process following standard operating procedures. <i>Edge banding is the process of applying a trim or edge to the piece of furniture to make it neat and aesthetically pleasing.</i>
<b>Electrical/Mechanical Fittings</b>	Fit mechanical or electrical components to furniture

<b>Rectification/Rework</b>	Carry out rectification or rework. This includes assessing and repairing items
<b>Safe Handling and Storage</b>	Pack and store products and components following standard operating procedures. Understand and follow procedures for safe handling of products

## Bed manufacturer

Bed Manufacturers work in factory environments where the ability to work to agreed targets in terms of output and quality standards is essential. Manufacturers often work shift systems and the seasonality of the industry, plus peaks and troughs in orders, often demands overtime working.

In order to ensure sufficient flexibility to meet the needs of the industry whilst maintaining the rigour of every single apprenticeship within it, Bed Manufacturers will need to undertake four of the following requirements, at least two must be Group A. These could be mattress making skills, divan and headboard making or a mixture of both.

### Mattress making

#### YOU WILL KNOW HOW TO AND BE ABLE TO

Group	A
<b>Spring Making</b>	Prepare work area, set up machine for appropriate spring type and size and produce springs to the required specification
<b>Quilting</b>	Prepare for and carry out mattress quilting operations. Understand and operate quilting machines
<b>Tape Edging</b>	Prepare work area, set up machinery, select materials and carry out tape edging. <i>Tape edging is usually the final process in mattress making. It involves closing the mattress up by the application of a tape using a sewing machine</i>
<b>Hand Side Stitching</b>	Identify and sort components and sew materials to specification
Group B	
<b>Panel Cutting</b>	Prepare and cut fabric and components used for panels. Understand and use any machinery used in this process
<b>Sewing Borders / Labels</b>	Identify and sort components. Sew materials to specification
<b>Mattress Assembly</b>	Assemble mattresses using appropriate components such as spring units and fillings to agreed standards. This will involve the use of equipment such as a glue spray and staple guns.
<b>Tufting</b>	Tuft mattresses to appropriate pattern and standard
<b>Divan and headboard making</b>	

## YOU WILL KNOW HOW AND BE ABLE TO

Group	A
Sewing	Produce sewn / seamed components by hand and through the use of machinery
Headboard Upholstery	Upholster headboards including pleats, deep buttoning, ruching and fluting
Upholstery	Prepare, cut and apply upholstery materials, trim and finish divans
CNC Routing	Prepare, set up, operate and maintain computer numerically controlled (CNC) machinery to produce shaped headboards

### Group B

Wood Machining	Prepare, set up, operate and maintain machinery to produce wood components
Laying and Cutting Fabrics	Prepare and cut fabric and components
Frame Making	Prepare and assemble frames using jigs
Drawer Making	Upholster drawer fronts, prepare and assemble drawers
Ottoman / Adjustable Bed Frames	Produce ottoman or adjustable beds ensuring the mechanisms are correctly attached and in working order

## Modern upholsterer

A Modern Upholsterer is a skilled and methodical individual capable of creating ergonomic and comfortable furniture using both traditional and modern techniques, materials and fabrics to produce aesthetically pleasing and fit for purpose consumer products.

In order to ensure sufficient flexibility to meet the needs of the industry whilst maintaining the rigour of every single apprenticeship within it, Modern Upholsterers will need to undertake five of the following requirements, at least two must be Group A.

## YOU WILL KNOW HOW TO AND BE ABLE TO

Group	A
Cut Fabrics and Components	Prepare and cut fabric and components used in upholstery.
Frame Construction	Construct upholstery frames to specification. Understanding the methods used to construct frames

<b>Sewn / Seamed Components</b>	Produce sewn / seamed components by hand and through the use of machinery.
<b>Suspensions and Foundations</b>	Select materials for suspensions including springs, pocket springs, sprung units and webbing. Apply these to frames using appropriate modern or traditional methods, tools and equipment.
<b>Upholstering</b>	Measure and cut fabric, fit, apply and finish top covers including fluting, pleating and buttoning.
<b>Loose Covers</b>	Cut, sew and fit loose covers to specification.
<b>Repair</b>	Repair joints and frame ready for re-upholstery and revive and polish show-wood frame.

## Group

## B

<b>Jigs and Templates</b>	Use and maintain jigs and templates. <i>Jigs are used to ensure repeatability and accuracy in the production of furniture. These can be hand held or mounted on workbenches.</i>
<b>Produce Templates</b>	Determine details of templates from specifications, mark out, measure dimensions and cut templates using appropriate tools and equipment.
<b>Resolve Faults in Leather</b>	Deal with scuffs, scratches, stains, burn marks, water marks and discolouration in leather.
<b>Filling Materials</b>	Select and fix filling materials. Understand different types and fixing methods
<b>Fit Mechanical or Electrical Components</b>	Assemble, fit and quality assure components.
<b>Cushions and Padded Items</b>	Measure and cut fabric; sew components to produce scatter, box and bolster cushions.
<b>Frame Finishes</b>	Finish and polish show-wood frames, apply stains, sealers basecoats and finishes.
<b>Trimmings and Finishings</b>	Position and fix trimmings and finishings. This includes castors, valances, borders, skirts, dust covers and feet and legs.
<b>Strip Down Furniture</b>	Strip back existing upholstery to frames. Understand when and how to retain original foundation work

A Furniture Finisher will prepare and treat a wide range of timbers and man-made boards, using a range of techniques. Items to be finished could range from tables, chairs, lounge suites, cabinets, chests of drawers, kitchen units and shop fittings. They may also work on fitted items such as staircases, wall panels and doors, and on musical instruments like pianos. If you love working with wood this highly skilled job could be perfect for you. Most furniture finishing is done by pressure spray application, but hand polishing & other machine applications can be used. This is a skilled occupation where you need to be creative, organised, have a good eye for colour and show attention to detail. Apprentices who master this skill see the finished furniture items come to life.

Furniture Finishers will be able to undertake all of the following requirements.

## YOU WILL KNOW HOW TO AND BE ABLE TO

### Preparation

Analyse and agree finishing requirements following organisational procedures. A customer can be internal or external to the organisation.

### Requirements

#### Prepare furniture for finishing

Prepare hand crafted or production furniture for finishing this will include sanding, grain brushing, repair, stripping and general surface preparation.

### Finishing

Apply stains, sealers, primers, oils, polishes, varnishes, waxes, lacquers and finishing coats to furniture. Finish furniture by spraying.

#### Finishing Applications

Identify and carry out basic colour matching to organisational standards

#### Colour Match

#### Decorative & Specialist Effects

Create decorative effects or specialist finishes on furniture

## Fitted furniture installer

A Fitted Furniture Installer is responsible for preparing and installing furniture including kitchens, bedrooms, bathrooms and offices, shops, exhibitions and boat interiors. This is onsite at the customer's commercial or domestic premises. Apprentices taking this route will experience a wide variety of projects and interface closely with customers. In order to ensure sufficient flexibility to meet the needs of the industry whilst maintaining the rigour of every single apprenticeship within it, Installers will need to undertake all mandatory and two of the optional requirements.

### Mandatory

## YOU WILL KNOW HOW TO BE ABLE TO

### Prep

#### Transporting & Handling of Materials

Ensure the safe transportation and handling of installation equipment and materials. The correct type and quantity of installation equipment and materials have to be located and then transported so that they arrive at the location of the installation in good order.

### Installation

Prepare Location	Prepare location for assembly and placement of furniture. This involves making the assembly and placement area ready for work and preparing the furniture components for assembly.
Measure and Mark Out	Measure and mark out materials to specification.
Power Tools & Hand Tools	Set up and operate tools used to assemble furniture. Understand the tools used within working area and which specific job they are used in.
Assembly	Assemble components of fitted furniture and understand the sequence of assembly and why this is important
Installation	Install furniture on location to specification. This includes scribing, fixing and securing of furniture using correct fixings relating to foundation secured to etc., adaptations to non- standard situations to specification (i.e., pipe box, sockets, gas meter)

### Post installation

Re-instate Location	Re-instate a location after assembly and placement of furniture. This involves confirming the end of placement, ensuring all resources are cleared and maintaining customer liaison.
Customer Service	Develop customer relationships. This includes building customer confidence in the level of service provided, meeting the ongoing needs and expectations of customers and developing relationships between customers and your organisation
Rectification/ rework	Carry out rectification or rework. This includes changing hinges and handles. Identify snags and awareness of where to seek help and guidance.

### Optional

#### YOU WILL KNOW HOW TO AND BE ABLE TO

#### Installation

Gluing	Apply adhesives to components and understand types, methods and processes involved in gluing.
Cut Outs	Complete standard cut-outs in work surfaces for general appliances such as taps, hobs and sinks. This covers using a template, cutting out and finishing the area.
Cramping	Position components and apply cramps to ensure products are positioned securely to specification.



Sanding	Sand wooden work tops, trims, cornices and laminate edgings. Understand grit sizes and the process for sanding.
Veneers & Laminates	Apply edging tape to laminate worktops to specification.
Jigs & Templates	Use and maintain jigs and templates for furniture installation. Jigs for example hinges and templates for example sinks and work tops.
Joints	Cut and join components on site. This could include work top jointing, up-stand, cornices and trims.
Fittings	Prepare and assemble components to specification, finishing and checking the assembly conforms to specifications
Electrical / Mechanical Fittings	First fit mechanical or electrical components to furniture.
Finish composite worktops	Finish work tops to specification following manufacturers' instructions.

## Furniture restorer

Furniture restorers are involved in the conservation and restoration of antique and modern furniture by using practical and scientific restoration techniques. To be a furniture restorer, you should have an interest in furniture history, a desire to fix things, practical skills, an eye for detail and good observational and co-ordination skills. You should have a patient and organised approach.

The programme is designed to give a wide range of skills appropriate to restoration and repair.

In order to ensure sufficient flexibility to meet the needs of the industry whilst maintaining the rigour of every single apprenticeship within it Restorers will be able to undertake all mandatory and one of the optional requirements.

### Mandatory

#### YOU WILL KNOW HOW TO AND BE ABLE TO

##### Preparation

Agree the requirements, scope of the work and the budget with the customer. Set expectations with the customer.

##### Customer Service

Assess items of furniture for repair in order to produce a condition and options report.

##### Assessment

Evaluate and specify restoration requirements. Develop a plan for the restoration work.

##### Requirements

Carry out research to understand the history of furniture and the different periods.

**Research**

**Restoration**

**Restoration**

**Repair & Restore**

Repair structural components. Replicate and restore components.

**Basic Finishing**

Prepare existing and newly restored surfaces and finish furniture using basic finishing methods.

**Finishing**

**Reporting**

Write a report on the work that has been carried out to include sketches and photographs of the process.

**Recommendations**

Provide the customer with relevant aftercare and instructions and recommendations for future use and handling.

**Optional**

**YOU WILL KNOW HOW TO AND BE ABLE TO**

**Specialist**

**Decorative Effects**

Re- create decorative effects on furniture.

**Re-upholstery**

Reupholster structural and decorative elements of furniture. Ensure you use appropriate fabrics.

**French Polishing**

French polish furniture using traditional methods to a glass finish.

## **Modern furniture service repairer**

Modern Furniture Service Repairers fix a wide range of problems, including damage to furniture, upholstery, beds, mattresses, mechanisms and fittings. They visit customers' premises to inspect items, assess requirements and carry out repairs.

To be a Modern Furniture Service Repairer you should have a hands on approach, with good practical skills, excellent communication skills, an eye for detail and good observational and co-ordination skills. You should have a patient and organised approach, good listening skills and be an ambassador for your company.

The programme is designed to give a wide range of skills appropriate to Modern Furniture Service Repair and will lead to a lifelong trade.

In order to ensure sufficient flexibility to meet the needs of the industry whilst maintaining the rigour of every single apprenticeship within it Modern Furniture Service Repairers will be able to undertake all mandatory and three of the optional requirements.

**Mandatory**

**YOU WILL KNOW HOW TO AND BE ABLE TO**

**Preparation**

Carry out an assessment of the fault. Assess and specify requirements for work to be carried out and agree with customers.

### Assessment

Develop customer relationships. This includes building customer confidence in the level of service provided, meeting the ongoing needs and expectations of customers and developing relationships between customers and your organisation.

### Customer Service

#### Sign off

Provide customers with relevant aftercare and instructions and recommendations for future use.

### Recommendations

Complete reports on the work carried out.

### Report

### Optional

### YOU WILL KNOW HOW TO AND BE ABLE TO

#### Repair

Repair upholstery faults including fabrics, frames, fillings, stitching, scratches, scuffs, tears, holes, seam issues, discolouration and colour loss, arms, collapsed surfaces and springs.

### Upholstery

Repair furniture faults including cosmetic, structural, veneers, foil and laminated surfaces.

### Furniture

### Beds and mattresses

Repair beds and mattress faults including broken frames, replacing tufts, damaged stitching and mattress settlement.

### Flat pack

Repair flat pack furniture faults including cosmetic and structural.

### Mechanisms and fittings

Repair/replace mechanism and fittings faults including lifting mechanisms, recliners and electrical components,

### Leather repairs

Repair scuffs, scratches, stains, burn marks, water marks and discolouration in leather.

## Foam convertor and upholstery cushion interior manufacturer

A Foam Convertor and Cushion Manufacturer produces cushioning products using a wide range of conversion equipment. This includes setting up, operating and maintaining processing and cutting equipment. This equipment can range from small manually operated machines to large automated CNC profiling and shaping equipment. They are involved in the conversion of large polyurethane blocks and other filling materials into padding and cushioning components for the production of upholstered furniture and bedding.

In order to ensure sufficient flexibility to meet the needs of the industry whilst maintaining the rigour of every single apprenticeship within it, Foam Convertor and Cushion Manufacturers will be able to undertake all mandatory requirements and 4 optional requirements.

**Mandatory**
**YOU WILL KNOW HOW TO AND BE ABLE TO**
**Preparation**

<b>Raw materials</b>	Identify and explain characteristics of raw materials.
<b>Product Specifications</b>	Understand product specification instructions and diagrams
<b>Production Process &amp; Flow Requirements</b>	Prepare, arrange and coordinate material flow through identified work stations following required production route

**Finishing**

<b>Rectification / Rework</b>	Identify faulty products and undertake rectification process
<b>Safe Handling and Storage</b>	Pack and label products in the required format according to customer specification

**Optional**
**YOU WILL KNOW HOW TO AND BE ABLE TO**
**Sewn Case Production**

<b>Lay Up, Measure &amp; Mark Out</b>	Operate manual and / or automatic fabric spreading equipment using safe systems of work.
<b>Cut Shapes</b>	Cut shapes using manual hand held cutting equipment and / or CNC fabric cutter according to safe systems of work
<b>Prepare Cut Parts &amp; Sew Components</b>	Prepare cut components ready for sewing and sew by hand through use of sewing machinery.

**Sewn Case Production**

<b>Prepare Cases</b>	Prepare cases in line with filling requirements
<b>Fill Cases</b>	Fill cases through use of manual and / or automated filling methods
<b>Finishing</b>	Close filling opening to required standards through use of closing machinery to prevent filling migration

**Foam Cutting**

<b>Operate CNC Machinery</b>	Prepare, set up and operate foam CNC & profiling machinery using safe systems of work.
<b>Operate Large Cutting Machinery</b>	Prepare, set up and operate vertical and horizontal cutting machines using safe systems of work.

<b>Operate Small Cutting Machinery</b>	Operate small cutting and shaping machinery using templates and jigs to ensure repeatability and accuracy of component parts
<b>Foam assembly</b>	
<b>Prepare Components</b>	Prepare all cut components along with required drawings ready for assembly
<b>Automated Fabrication</b>	Operate automated fabrication line to required operating procedures.
<b>Manual Fabrication</b>	Assemble cut parts through correct use of sprayed adhesive equipment and assembly techniques to the required tolerances and quality standards

## Wood machinist

A Furniture Wood Machinist produces components for furniture using a wide range of wood working machinery. This includes setting up, operating and maintaining wood working machines such as saws, planers, moulders, lathes, routers and CNC/NC machines. Wood Machinists will take raw materials and produce components to a given specification to be used in the manufacture of furniture. They will often be working individually so being able to motivate themselves and work on their own initiative is essential. Having a keen eye for detail, apprentices will work in environments from small workshops to large scale factories. Following this route will allow an apprentice to develop a wide range of skills across different types of wood working machines.

In order to ensure sufficient flexibility to meet the needs of the industry whilst maintaining the rigour of every single apprenticeship within it, Wood Machinists will be able to undertake all the mandatory requirements and four of the optional requirements.

### Mandatory

#### YOU WILL KNOW HOW TO AND BE ABLE TO

##### Essential

<b>Measure and Mark Out</b>	Measure and mark out materials to specification within the acceptable tolerances following standard operating procedures.
<b>Tooling</b>	Select, prepare and maintain woodmachining tooling.
<b>Cutting</b>	Prepare, set up and operate cutting wood machinery.
<b>Planing</b>	Prepare, set up and operate planes. This includes surface planer and thicknesser (can be a combined machine) and four sided planer and moulder (for planed all round).

### Optional

#### YOU WILL KNOW HOW TO AND BE ABLE TO

##### Pre-Machining

Calibrate measuring equipment, keep tools and equipment clear of debris and dirt and ensure tools are kept sharp.

### Calibrating

Use and maintain jigs and templates for furniture production. *Jigs are used to ensure repeatability and accuracy in the production of furniture. These can be hand held or mounted on workbenches.*

### Jigs and Templates

Prepare, set up and operate profiling wood machinery. This includes vertical spindle moulder (straight work), four sided planer and moulder, high-speed router, double-end tenoner, wood turning lathe, copying lathe, linear shaper, rotary shaper machines

### Profiling

#### Machining

Prepare, set up and operate boring wood machinery. This includes single-head machine and multi-head machine.

### Boring

Sand materials for preparation prior to assembly, post-assembly and de-nibbing.

Understand grit sizes and the process of sanding. This includes the use of wide belt sander, overhead narrow belt sander, disc sander, bobbin sander, finisher and profile sander.

### Sanding

.Carry out the edge-banding process following standard operating procedures. This includes, edge-banding by hand, colour matching, timber and PVC lippings, calibration and finishing techniques.

### Edge Banding

### Operate Machinery and Equipment

Operate woodworking machinery and equipment to meet company requirements. Prepare tools and equipment including tooling technology and calibration of measuring equipment.

Prepare, set up and operate wood machinery to produce jointed wood and wood-based products. This includes chisel morticer, chain morticer, slot morticer, dovetailer, vertical spindle moulder, stair router, single-end tenoner, double-end tenoner, round-end tenoner, dowler and router.

### Joints

#### Finishing

Assemble components of furniture following standard operating procedures. Understand the sequence of assembly and why this is important.

### Assembly

## Furniture CNC specialist

A Furniture CNC Specialist produces components for furniture using CNC machines. This includes setting up, operating and maintaining CNC machines and saws to cut, plane, shape and sand all types of wood and man-made wood components. They have an interest in computers and machines. They need to be able to work using their own initiative and motivate themselves. Furniture CNC Specialists work in environments where an ability to work to targets in terms of output and quality standards is essential. These can be wide ranging from small workshops to large scale factories. This programme is designed to give an excellent grounding for anyone who wants a career working with CNC machines.

In order to ensure sufficient flexibility to meet the needs of the industry whilst maintaining the rigour of every single apprenticeship within it, Furniture CNC Specialists will be able to undertake all the mandatory requirements and three of the optional requirements.

## Mandatory

### YOU WILL KNOW HOW TO AND BE ABLE TO

#### Essential

<b>Measure and Mark Out</b>	Measure and mark out materials to specification within the acceptable tolerances following standard operating procedures.
<b>Tooling</b>	Select, prepare and maintain CNC/NC tooling.
<b>Operate CNC/NC Machinery and Equipment</b>	Operate CNC/NC machinery and equipment to meet company requirements.  Prepare tools and equipment including tooling technology and calibration of measuring equipment.
<b>CNC/NC Processing</b>	Understand the principles of CNC/NC processing. This includes the capabilities of machinery used, how the machinery operates, principles of machinery and the manufacturing processes used in your organisation.
<b>Mechatronics System Principles and Fault Finding</b>	Understand mechatronics systems principles and fault finding. This includes diagnosing simple faults, understanding total production maintenance, engineered systems, and the basic principles of pneumatic, hydraulic, mechanical and electrical actuation systems.

## Optional

### YOU WILL KNOW HOW TO AND BE ABLE TO

#### Preparation

<b>Methods of Measurement</b>	Inspect and use measuring equipment, keep tools and equipment clear of debris and dirt.
<b>Jigs and Templates</b>	Use and maintain jigs and templates for furniture production. <i>Jigs are used to ensure repeatability and accuracy in the production of furniture. These can be hand held or mounted on workbenches.</i>
<b>Sanding</b>	Sand materials for preparation prior to assembly, post-assembly and de-nibbing. Understand grit sizes and the process of sanding. This includes the use of wide belt sander, overhead narrow belt sander, disc sander, bobbin sander, linisher and profile sander.
<b>Edge Banding</b>	Carry out the edge-banding process following standard operating procedures. This includes colour matching, timber and PVC lippings, calibration and finishing techniques.
<b>Planing</b>	Prepare, set up and operate planes. This includes surface planer and thicknesser (can be a combined machine) and four sided planer and moulder (for planed all round).

## Joints

Prepare, set up and operate CNC/NC machinery to produce jointed wood and wood based products. This includes chisel morticer, chain morticer, slot morticer, dovetailer, vertical spindle moulder, stair router, single-end tenoner, double-end tenoner, round-end tenoner, dowler and router.

Assemble components of furniture following standard operating procedures..

## Assembly

Understand the sequence or assembly and why this is important

## Maths and English requirements

For apprentices that have not yet achieved level 2 English and maths, they must achieve level 2 English and maths and take the test for level 2 prior to taking their endpoint assessment.

## Duration

Typically this apprenticeship will take 24 months to complete.